Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-59.   (canceled)

60.   (currently amended): A method for measuring film thickness comprising:

irradiating light, which is emitted from a light source and passed through a lens, onto a pattern formed on a wafer having an n optically transparent thin film;

detecting light reflected from said wafer and passed through a lens with a sensor;

using spectral waveform data of the detected reflected light detected by the sensor, determining plural measurement points on said wafer by frequency analysis or fitting for measuring the film thickness; and

measuring the film thickness at the measurement points, by successively irradiating light, emitted from the light source and passed through the lens, onto the measurement points by moving the wafer so as to successively place the measuring points in an optical field of the lens.

61.   (previously presented): The method of claim 60 wherein in the step of determining plural measurement points, the measurement points are determined by using information obtained by frequency analysis of the spectral waveform data of the reflected light.

62.   (previously presented): The method of claim 61 wherein the measurement points are determined by using information for a high-frequency component intensity and a low-frequency component intensity, each obtained by frequency analysis of the spectral waveform data of the reflected light.

63.   (previously presented): The method of claim 61 wherein, in the step of determining plural measurement points, the measurement points are determined by using information for waveform periodicity of the spectral waveform data.

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64. (previously presented): The method according to claim 60 wherein the plural measurement points are determined by using information obtained by comparing the spectral waveform data with theoretical waveform data.

65. (previously presented): The method according to claim 64, wherein the theoretical waveform data is calculated by using a boundary structure model in which the light reflected from a pattern is mixed with the light reflected from a layer below the pattern.